

# AQRP Monthly Technical Report

<b>PROJECT TITLE</b>	Characterization of Corpus Christi and San Antonio Air Quality During the 2020 Ozone Season	<b>PROJECT #</b>	20-003
<b>PROJECT PARTICIPANTS</b>	Robert Griffin, Rice James Flynn and Yuxuan Wang, UH Rebecca Sheesley and Sascha Usenko, Baylor	<b>DATE SUBMITTED</b>	10 February 2021
<b>REPORTING PERIOD</b>	<b>From:</b> 1 January 2021 <b>To:</b> 31 January 2021	<b>REPORT #</b>	6

A Financial Status Report (FSR) and Invoice will be submitted separately from each of the Project Participants reflecting charges for this Reporting Period. I understand that the FSR and Invoice are due to the AQRP by the 15<sup>th</sup> of the month following the reporting period shown above.

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## Detailed Accomplishments by Task for reporting period

Work performed in this month was related to Task #1, campaign preparation. Housing plans were finalized with AQRP, and expendable supply purchases continued. Training of staff and graduate students on all instruments also continued. The work for the reporting period also included on-going effort toward upgrading and modifying the Baylor trailer for deployment during the upcoming campaign. The installation of the Timbren Dakota 8K air ride system was completed. This system will improve the overall quality of the ride and enhance our ability to safely transport the instrumentation payload. With respect to specific instrumentation, the electronic control box for the aerosol mass spectrometer is currently undergoing repair, and a heated inlet line for the proton transfer reaction mass spectrometer has been ordered. For other instruments, serial communication installation and testing have been completed, valves (and their control devices) and other parts (such as a zero air generator) were installed to allow instrument calibration in situ, zero air testing was performed, and uninterruptable power supplies were installed on each rack for gas-phase instrumentation.

Additional work was performed for Task #3, data analysis, which includes three-dimensional modeling. This includes continued implementation of larger-scale GEOS-Chem outputs as boundary conditions to drive the WRF-GC model and preparing emission files for the fine-resolution WRF-GC runs to be performed as part of this project. This work is a continuation of that reported last month.

## Preliminary Analysis

None yet

## Data Collected

None yet

## **Identify Any Problems or Issues Encountered and Proposed Solutions or Adjustments**

As referenced in the first five monthly reports, delays in finalizing task orders and issues associated with the COVID pandemic have necessitated shifting the field work from fall 2020 to spring 2021. With approval from the AQRP, we have adjusted and added to the scientific questions to be addressed using our field data analysis and modeling. We currently are planning precautions needed to successfully perform this campaign during spring 2021, despite the continued pandemic. Note that a few individuals from the Baylor group were focused to quarantine due to potential exposure to COVID-19. This has resulted in some delays, but the group is working diligently to catch up.

## **Goals and Anticipated Issues for the Succeeding Reporting Period**

Model: Continue generation of appropriate input files for three-dimensional modeling efforts, continued training of researchers on use of the three-dimensional model

Field: Continue preparation of mobile air quality laboratory, continue assessment of equipment maintenance needs, and continue training of researchers on equipment usage.

## **Detailed Analysis of the Progress of the Task Order to Date**

Given the late start and the approved change in project field work, we believe that our progress on the project has been appropriate.

**Do you have any publications related to this project currently under development? If so, please provide a working title, and the journals you plan to submit to.**

Yes       No

**Do you have any publications related to this project currently under review by a journal? If so, what is the working title and the journal name? Have you sent a copy of the article to your AQRP Project Manager and your TCEQ Liaison?**

Yes       No

**Do you have any bibliographic publications (ie: publications that cite the project) related to this project that have been published? If so, please list the reference information. List all items for the lifetime of the project.**

Yes       No

**Do you have any presentations related to this project currently under development? If so, please provide working title, and the conference you plan to present it (this does not include presentations for the AQRP Workshop).**

Yes       No

**Do you have any presentations related to this project that have been published? If so, please list reference information. List all items for the lifetime of the project.**

Yes       No

**Have any personnel changes occurred that were not listed in the original proposal? If so, please include a detailed description of the personnel change(s) below.**

Yes       No

**Are any delays expected in the progress of the research? If so, please include a detailed description of the potential delay below.**

Yes       No

See response above regarding problems encountered. This is more a shift in timing as it will not impact our ability to complete the project by the scheduled end date, assuming no further delays associated with COVID-19.

**Describe any possible concerns/issues (technical or non-technical) that AQRP should be made aware of.**

None not addressed previously.

**Are you anticipating using all the available funds allocated to this project by the end date? If not, why and approximately what is the amount to be returned?**

Yes       No

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Submitted to AQRP by      Robert J. Griffin